

***Botrychium lineare* W.H. Wagner**
skinny moonwort
Ophioglossaceae (Adder's Tongue Family)

Status: State Threatened

Rank: G1S1

General Description: From Wagner and Wagner (1994): A small *Botrychium*, the leaf 2½ to 7¼ inches long above the upright subterranean stem ¼ to 1¼ inch long. Trophophore sessile to stalked up to ½ inch. Blade oblong, 1-pinnate. Pinna pairs 4-6, strongly separated by 2-5 times the width of the segments, to moderately ascending, approximately equal in length, except for shorter apical 1-4 pairs of segments. Pinnae mostly straight, slightly upcurved, narrowly linear, often expanded at the truncate apex or rarely linear-spatulate, commonly bifid with linear lobes. Color pale green. Texture thick chartaceous, rigid. Sporophore 1-2 times the length of the trophophore, with a single major axis.

Identification Tips: According to Wagner and Wagner (1994), the frond characteristics of *B. lineare* are key distinguishing features: (1) the linear remote segments are commonly bifid or more divided at the tips, (2) the pinnae are nearly uniform in size from the blade base to near the apex, and (3) the sporophores are only 1-2 times the length of the trophophore.

Phenology: Spores mature in late June and July.

Range: Known from Idaho, Montana, California, Oregon, Colorado, Quebec and New Brunswick. In Washington, the taxon is known from only one occurrence in Ferry County in the Okanogan Highlands physiographic province.

Habitat: The species is found in "...deep grass and forbs of meadows, under trees in woods, and on shelves on limestone cliffs, mainly at higher elevations" (Wagner and Wagner 1994). The extant sites in Oregon and Colorado are montane meadows. The one known occurrence in Washington is at an elevation of 3300 feet and is within a western redcedar / Douglas fir stand along a flat floodplain adjacent to a creek.

Ecology: The taxon is found in a variety of habitats and can exist with other species of *Botrychium* without intergradation. At the single

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Washington site, the species is apparently absent from adjacent sites that are heavily disturbed by grazing.

State Status Comments: There is only one known occurrence in Washington. "There are probably not more than 85 plants noted thus far in North America" (Wagner & Wagner 1994).

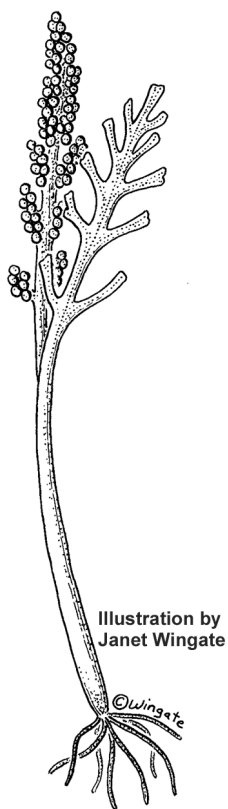
Inventory Needs: Additional inventory is needed throughout the state. The species can occur in a variety of habitats.

Threats and Management Concerns: Cattle grazing is apparently a threat to the one known occurrence in Washington.

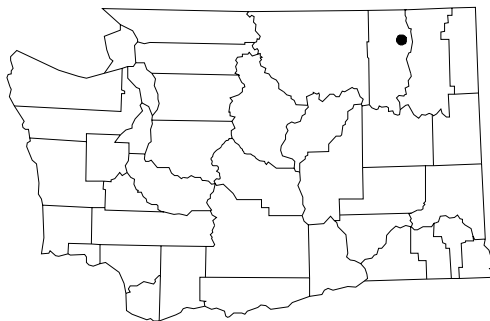
References:

Wagner, W.H. Jr., and F.S. Wagner. 1994. Another widely disjunct, rare and local North American moonwort (Ophioglossaceae: *Botrychium* subg. *Botrychium*). Amer. Fern Journal 84(1): 5-10.

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Known distribution of
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in Washington



- Current (1980+)
- Historic (older than 1980)

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